



## Chapter

# 2

## Projections and Waste Quantities

**This chapter describes the City's current waste stream characteristics, waste stream projections for the next 20 years, and pertinent demographic data that may influence waste management.**

### *Description of the City's Current Solid Waste Stream and Projections for the Next 20 Years*

This chapter presents a description of the City's current waste stream characteristics, estimates of waste quantities and material types, and projections of the waste stream over the next 20 years. The chapter also examines the pertinent demographic data, including population, urban concentration, households, and employment, and City characteristics, including climate, geology, and traffic conditions, that may influence waste collection, waste disposal, and type of materials disposed of over the next 20 years.

## Description of Plan Area

### **City Characteristics**

The City of Falls Church, an independent municipality in northern Virginia, is the smallest county-level political subdivision in the United States. The City has a total area of approximately 2.2 square miles. Located seven miles west of the District of Columbia, the City is bordered on the north, west, and south by Fairfax County. Arlington County forms the eastern boundary of the City.

### **Geographic Conditions**

Located in the Piedmont physiographic province, the City is characterized by gently rolling terrain. The soils in the City are shallow and, during periods of low rainfall, are susceptible to drought conditions.

The climate of the region is characterized by four distinct seasons, with spring and fall typically cool and moist. Summers tend to be hot and

humid, with an average temperature of 82°F. Winters are characterized by mild weather, with temperatures near freezing, punctuated with periods of cold temperatures and heavy snowfall. The normal annual precipitation for the area is 39 inches. The average growing season is from April 20 to October 20.

The vegetation of the region is characterized by a blend of deciduous trees, predominantly of the oak family, and conifers, primarily pines. The vegetation in the area ranges from small herbaceous plants and wildflowers to shrubs and trees.

### Transportation Conditions

**Northern Virginia is the third worst congested traffic area in the nation. Traffic is forecasted to worsen over the next 20 years.**

Northern Virginia, which includes the City of Falls Church, is the third worst congested traffic area in the nation, both in terms of percentage of congested roadways and time spent in traffic.<sup>1</sup> Of the lane miles in the area, 44 percent are rated “F” or worst for congestion. Northern Virginia residents spend an average of 46 hours a year stuck in traffic.



**The impact of increased truck traffic and congestion will need to be addressed in selecting solid waste management alternatives.**

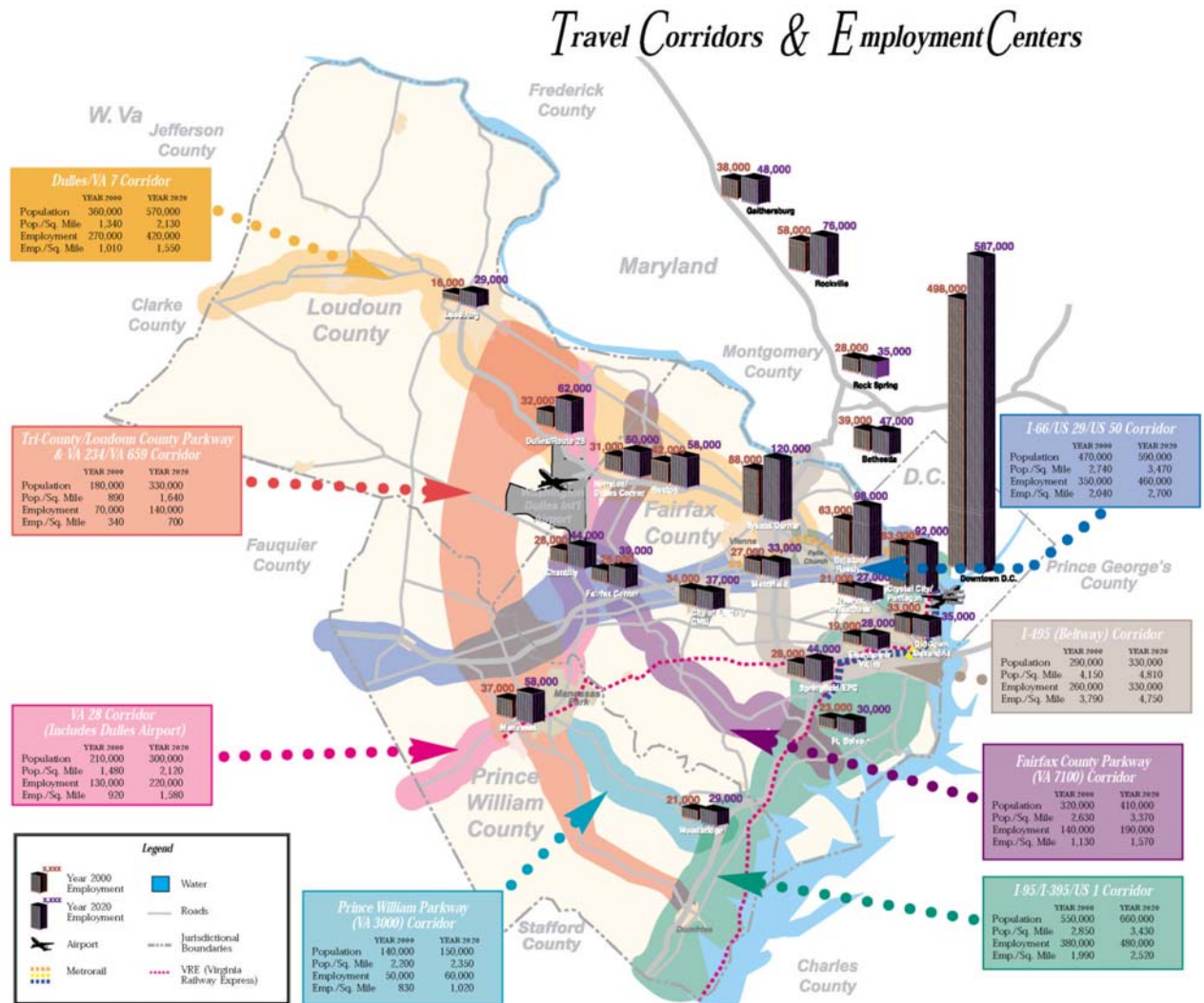
Traffic conditions factor significantly into the development of the City's Solid Waste Management Plan (SWMP). As the traffic conditions worsen, the time and cost of collection and disposal methods will increase. The City will need to address the impact of increased truck traffic and congestion in selecting future solid waste management (SWM) alternatives.

The forecast over the next 20 years is that traffic conditions will worsen. By 2025, vehicle miles traveled in Northern Virginia are forecasted to increase 41 percent, while the planned lane miles are forecasted to increase by only 13 percent.

Figure 2-1 shows the traffic corridors and employment centers in Northern Virginia. All the traffic corridors have significant traffic congestion issues. To make matters worse, the Virginia Department of Transportation predicts that the area will experience significant growth in traffic congestion over the next 20 years.

<sup>1</sup> David Schrank and Tim Lomax, *The 2002 Urban Mobility Report*, Texas Transportation Institute, June 2002.

Figure 2-1. Travel Corridors and Employment Centers in Northern Virginia



Source: Virginia Department of Transportation, *Northern Virginia 2020 Transportation Plan*, Dec. 1999.

## Population Data and Projections

### Population

**In 2000, there were 10,377 people living in the City of Falls Church.**

According to the 2000 Census, there are 10,377 people living in the City of Falls Church. From 1970 to 1980, the City's population decreased from 10,722 to 9,515, roughly 11 percent. The population increased from 1980 to 1990 by 0.7 percent, to 9,578 residents. Population growth was much greater over the next decade, an increase of roughly 8 percent to 10,377 residents in 2000.

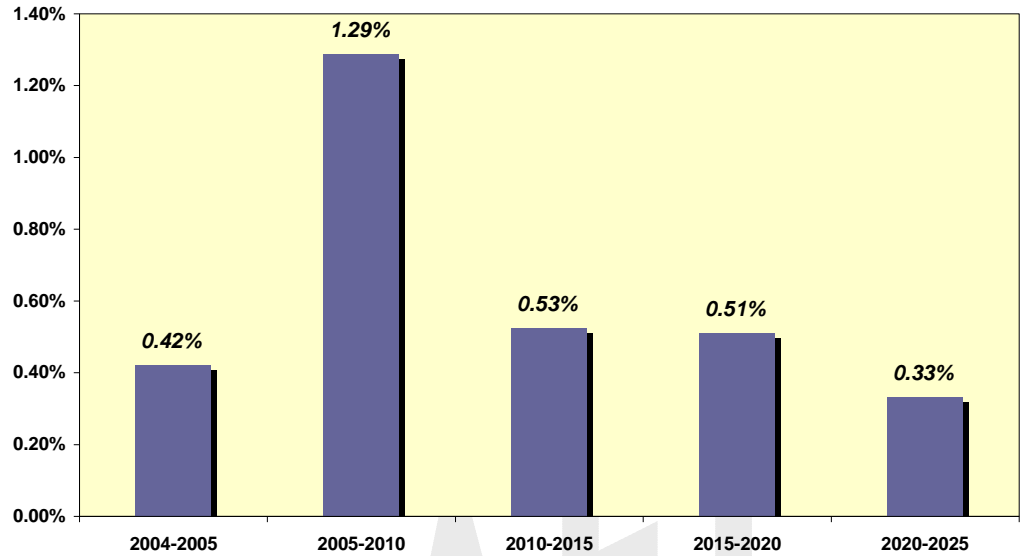
**Population will grow over the next 20 years, but at diminishing rates.**

### Population Forecasts

The City's population is expected to grow over the SWMP planning period, but, after 2010, growth will be at diminishing rates. Figure 2-2

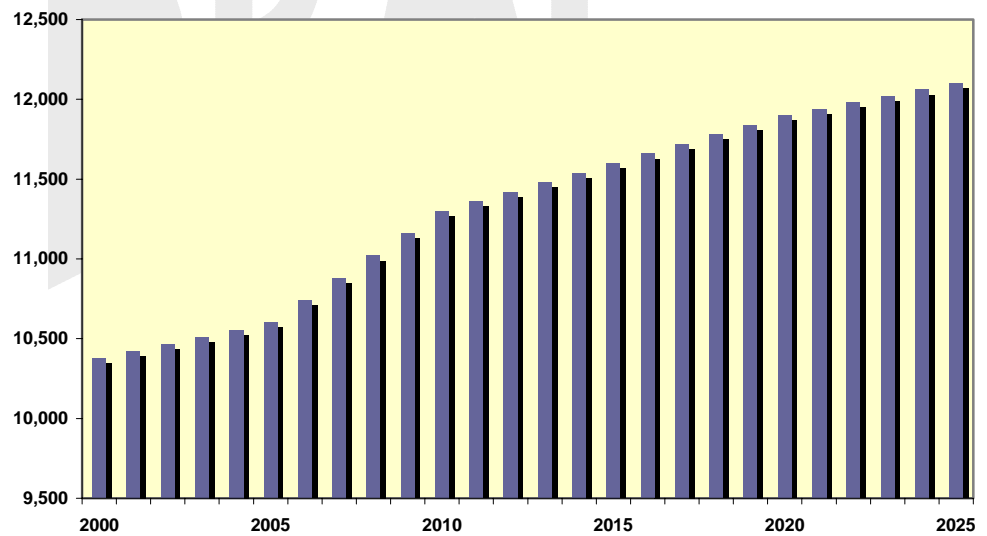
shows the City's estimated annual growth rates through 2025, and Figure 2-3 shows its projected population through 2025.

*Figure 2-2. City of Falls Church Annual Population Growth, Projected 2004–2025*



Source: City of Falls Church, Planning Division, 2003.

*Figure 2-3. City of Falls Church Total Population, Projected 2000–2025*



Source: City of Falls Church, Planning Division, 2003.

**The City's population density is 5,226 persons per square mile, classifying it as "very dense urban".**

### Urban Concentrations

The U.S. Census Bureau calculated that the City's population density in 2000 was 5,226 persons per square mile (or 2,013 persons per square kilometer). This density classifies the City as very dense urban, almost twice the average U.S. central city population density of 2,716 persons per square mile. In contrast, the 2000 population density was 80 persons per square mile in the United States and 179 persons per square mile in Virginia.



In the Washington metropolitan area, the City's population density is most comparable to Arlington County. Table 2-1 compares the City's population density with its neighboring counties.

*Table 2-1. Population Densities of Bordering Counties*

Bordering county	Population density (persons/mi <sup>2</sup> )
Arlington	7,323
Loudoun	326
Montgomery	1,763
Prince William	831
Fairfax County	2,455
City of Falls Church	5,226

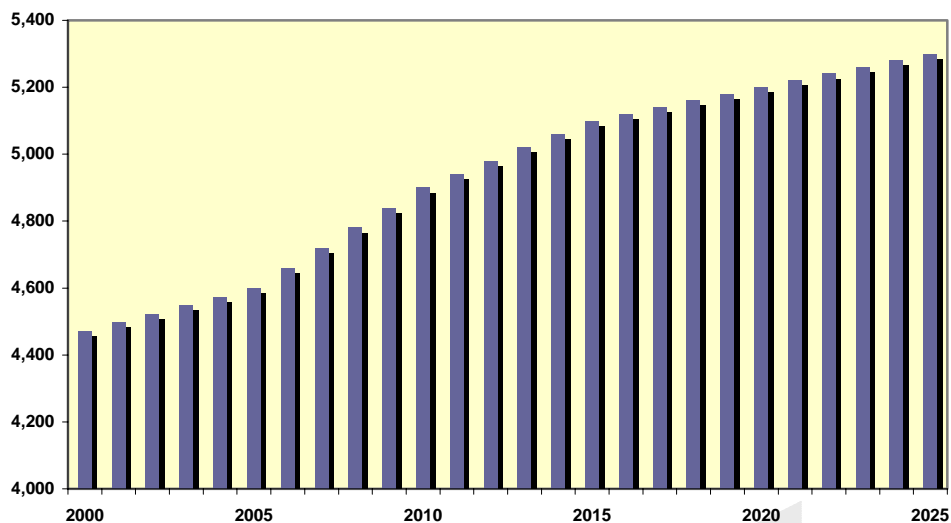
**The City of Falls Church projects that its households will grow by more than 725 over the next 20 years.**

### Household Forecasts

In 2000, the City of Falls Church counted 4,471 households within its borders. The City projects that the number of households will increase through 2025 at roughly the same annual rate as the population (discussed above). Figure 2-4 shows the City's estimate of total households through 2025.



Figure 2-4. City of Falls Church Total Households, Projected 2000–2025



Source: City of Falls Church, Planning Division, 2003.

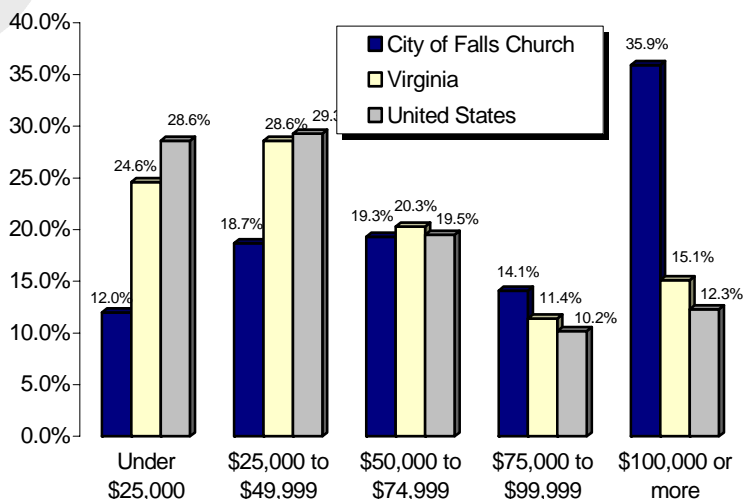
**In 2000, the average household size in the City of Falls Church was 2.31 persons.**

In the U.S. Census 2000, the average household size in the City of Falls Church was 2.31 persons, smaller than the national average of 2.59 and Virginia average of 2.54.

### Household Income Distribution

The City of Falls Church is one of the wealthiest cities in the country. The City's 1999 median household income of \$74,924 is 78 percent more than that of the United States (\$41,994) and 61 percent more than that of Virginia (\$46,667). Figure 2-5 shows the distribution of incomes in the City of Falls Church and the United States in 1999.

Figure 2-5. City of Falls Church and U.S. Income Distribution, 2001



Source: U.S. Census Bureau.